

Work Order ID 149307

Friday, July 22, 2016 10:46:07 AM

149307

Page 1

Item ID: D2576-1

Accept

N900040100Setup Start ***NS1***

Revision ID:

Stop ***NS2***

Item Name: Step (Casting Detail)

Start Date: 7/22/2016 Start Qty: 50.00

50

Cust Item ID:

Required Date: 8/5/2016 Req'd Qty: 50.00

50

Customer:

Reference:

Approvals: Process Plan:

DAS
21
9-89

Date: JUL 22 2016

Tooling:

Date:

Run Start ***NR1***

QC:

Date:

SPC (Y/N):

Date:

Stop ***NR2***Sequence ID/
Work Center IDOperation
DescriptionSet Up/
Run Hours

Tool ID

Tool #

Plan
CodeAccept
QtyReject
QtyReject
NumberInsp.
Stamp

Draw Nbr

Revision Nbr

D2576

Rev G

100

0.00

100

Purchasing

PURCHASING

Memo

0.00

Purchasing

Issue P/O: 33134 Cast per D2576-1 Pattern vendor: Alpine Non-Ferrous Material Release Note Required

L 16.07.22

110

Receive & Inspect for Damage & Mat'l Certs

0.00

110

Packaging

Memo

0.17

Packaging

Ensure D2576 mould is returned with the ordered parts Ensure release note is attached

50x Sp/6-8-12

120

QC6- Inspect dimensions to drawing

0.00

120

QC

Memo

0.00

Quality Control

(50)

DAS
38
9-89

AUG 12 2016

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐			
Date :	Step #:	QTY Effective :		MRB (QSI042) Approval Completed By Lead hand / Supervisor Approval Verification QC / QA Coordinator Approval	
Description Work Order Deviation		Disposition			
Root Cause Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐ No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐		FAULT CATEGORY Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐ Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐ Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Mislabeled ☐ Fit/Function ☐ Misaligned/off center ☐ Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐			
		OTHER :			

Work Order ID 149307

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Page 2

Item ID: D2576-1

Accept

N900040100Setup Start ***NS1***

Revision ID:

Stop ***NS2***

Item Name: Step (Casting Detail)

Start Date: 7/22/2016 Start Qty: 50.00

50

Cust Item ID:

Required Date: 8/5/2016 Req'd Qty: 50.00

50

Customer:

Reference:

Approvals:

Process Plan:

Date:

Tooling:

Date:

Run Start ***NR1***

QC:

Date:

SPC (Y/N):

Date:

Stop ***NR2***Sequence ID/
Work Center IDOperation
DescriptionSet Up/
Run Hours

Tool ID

Tool #

Plan
CodeAccept
QtyReject
QtyReject
NumberInsp.
Stamp

130

Identify as per dwg & Stock Location: LG

0.00

130

Packaging

Memo

0.08

Packaging

MAT060

50PC

AUG 12 2016

140

QC21- Final Inspection - Work Order Release

0.00

140

QC

Memo

0.83

Quality Control

DAS
21
3:39

SEP 26 2016

dem 16/09/26-

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐			
Date :	Step #:	QTY Effective :		MRB (QSI042) Approval	
Description Work Order Deviation		Disposition		Completed By Lead hand / Supervisor Approval Verification QC / QA Coordinator Approval	
Root Cause Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐ No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐		FAULT CATEGORY Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐ Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐ Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Mislabeled ☐ Fit/Function ☐ Misaligned/off center ☐ Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐			
		OTHER :			

Picklist Print

Friday, July 22, 2016 10:46:07 AM

Page 1
1

Work Order ID: 149307

149307

Parent Item: D2576-1

D2576-1

Parent Item Name: Step (Casting Detail)

Start Date: 7/22/2016

Required Date: 8/5/2016

Start Qty: 50.00

Required Qty: 50.00

Comments:

IPP Rev: A New Issue 05-11-29 JLM
IPP rev B rev F dwg 07.07.06 EC
IPP Rev:C As per Rev G 07-09-05 JLM Verified By:EC

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
---------------------------------	------------------------	---------------	-------------	---------------------	------------------	-----------------	--------------------	----------------	-------------	--------------	---------------	----------------	--------

D2576-1P

Purchased

No

100

Each

0.0000

1

50

**

50 x Sp/6 P 12

D2576-1P

Step (Casting Detail)

DQA: _____ Date: _____



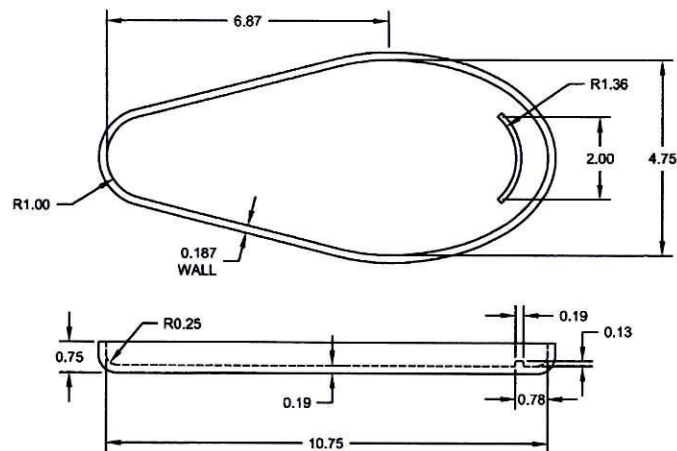
WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

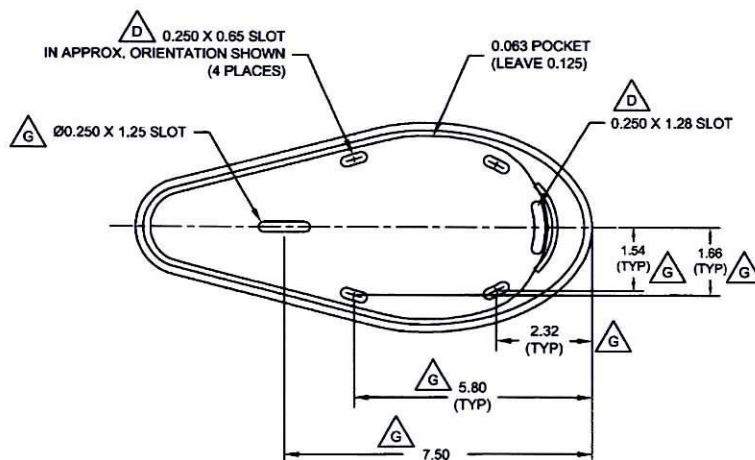
Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date :		Step #:		QTY Effective :			MRB (QSI042) Approval 		
Description Work Order Deviation				Disposition					
								Completed By 	
								Lead hand / Supervisor Approval Verification 	
								QC / QA Coordinator Approval 	

Root Cause				FAULT CATEGORY			
Environment ☐		No Re-verification ☐		Pressure/Forced ☐		Temperature/Cure ☐	
Design ☐		Operator ☐		Bending ☐		Set-up ☐	
Doc/Data ☐		Offset/Setup ☐		Centre Not Concentric ☐		BOM/Route ☐	
Equip/Tooling ☐		Supplier ☐		Cracks ☐		Broken/Damage/Defect ☐	
Handling/Pre ☐		Training ☐		Crimp/Kink/Ripple/Wave ☐		Inspection Incomplete/Unqualified ☐	
Material ☐		Use for Testing ☐		Cuffs ☐		Contamination ☐	
Internal Transport ☐		Poor Information ☐		Crushing ☐		Countersink ☐	
Tribal Knowledge ☐		Rushing ☐		Heat Treat ☐		Cut Too Short ☐	
LOA ☐		Product Improvement ☐		Wave/Twist in Tube ☐		Instructions Incomplete/Unclear ☐	
Substation ☐		Process Improvement ☐		Marks/Chatter ☐		Drill Holes ☐	
Past Expiry Date ☐		Manufacturing Process ☐		OTHER :			
Misidentified ☐		Past Due ☐					



D2576-1 CASTING



D2576-3 MACHINING DETAIL
(MAKE FROM D2576-1)

NOTES:

- 1) MATERIAL: CAST ALUMINUM ALLOY A-535.2
- 2) FINISH: NONE
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: 0.025 TO 0.050 MAX
- 6) IDENTIFICATION: NONE

SHOP COPY
RETURN TO
ENGINEERING
UNCONTROLLED COPY
SUBJECT TO AMENDMENT
WITHOUT NOTICE
WORK ORDER
NO. 149307 MJS
16-07-22

RELEASED

07.08.21

G	- CHANGE SLOTS LOCATION AND SIZE ON D2576-3 - DUE TO SKID BENDING PROGRAM CHANGES - UPDATE CNC PROGRAM	MB	07.08.15
F	7.05 WAS 6.61	PH	07.04.17
E	CHANGE 0.50 HOLE LOCATION AND ADD NOTE	RF	99.09.07
D	CHANGE SLOT SIZE AND LOCATION (TSR A1069)	CP	99.08.18
C	ADD POCKETS AND SLOTS FOR WELDING	DS	98.08.18
B	REMOVE POCKETS, ADD HOLE	DS	96.11.28
A	NEW ISSUE	DS	96.09.18
REV.	DESCRIPTION	BY	DATE
DESIGN			
DRAWN			
CHECKED			
MFG. APPR.			
APPROVED			
DE APPR.			
DATE	07.08.15		

DART AEROSPACE LTD
HAWKESBURY, ONTARIO, CANADA

DRAWING NO. D2576
REV. G
SHEET 1 OF 1
TITLE
SCALE
STEP 1:3

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Dart Aerospace Ltd.
1270 Aberdeen Street
Hawkesbury, ON K6A 1K7
Tel: 613 632 9577
Fax: 613 632 1053

PURCHASE ORDER

Purchase Order ID PO33136

Purchase Order Date 7/22/2016

PO Print Date 7/22/2016

Page Number 1 of 2

Order From :

VC-ALP001

ALPINE NON-FERROUS FOUNDRY
8657 - 132ND STREET
SURREY, BC V3W 4P1
CA

Ship To : DART AEROSPACE LTD

1270 ABERDEEN
HAWKESBURY, ON K6A 1K7
CANADA

Contact Name

Vendor Phone 604 596 8080

Ship To Contact

Ship To Phone

Ship Via:

Ship Acct:

Buyer

Customer POID

Customer Tax # 10127-2607

Terms Net 30

Currency CAD

FOB Destination-Collect

Line Nbr	Reference Vendor Part Number Line Comments Delivery Comments	Description/ Mfg ID	Req Date/ Taxable Promise Date	CD	Req Qty/ Unit of Measure	PO Unit Price	Extended Price
	D2576-1P	Step (Casting Detail)	8/5/2016 Yes 8/5/2016		50.00 Each	\$17.75	\$887.50
	make per drwg D2576 Rev. G B149307						
						Line Total:	\$887.50
2	71401-45	Procurement Quality Clause	8/5/2016 No 8/5/2016		1.00	\$0.00	\$0.00
	PROCUREMENT QUALITY CLAUSES A005 RIGHT OF ENTRY A012 CHEMICAL AND PHYSICAL TEST REPORTS A016 PERSONNEL QUALIFICATION A017 RAW MATERIAL IDENTIFICATION (AS APPLICABLE) A026 CERTIFICATION OF MATERIAL CONFORMANCE A040 NOTIFICATION OF QUALITY ESCAPE A041 QUALITY MANAGEMENT SYSTEM A042 DART NOTIFICATION BY SUPPLIER A043 RETENTION OF QUALITY DOCUMENTS						

Note:

7/22/2016

ALPINE NON-FERROUS FOUNDRY

8657-132ND STREET
SURREY, B.C. V3W 4P1
CANADA

PACKING LIST
WORK ORDER

Order No.: PO33136
Date: 25 Jul, 2016
Page: 1
Ship Date: 05 Aug, 2016

Sold To:

DART AEROSPACE

1270 ABERDEEN STREET
HAWKESBURY, ON K6A 1K7
CANADA

Ship To:

DART AEROSPACE

Order Date	Purchase Order#	Due Date	Ship Via	Page
25 Jul, 2016	PO33136	05 Aug, 2016		1
Item No.	Description	Ordered	Backorder quantity	Shipped quantity
DART D2576 ✓	D2576 STEP CSTG ✓ GS - GST @ 5% GST PST Exempt: #6122-5207	50	50	50
ALPINE NON-FERROUS FOUNDRY GST: #87550 0001				

80/6-8-12

Comment:

Castings&Patterns are property of Alpine until paid in full

SIEMEX CORPORATION
8F, No. 110, Sec. 2, Keelung Road,
Taipei City 10695, Taiwan, R. O. C.

CERTIFICATE OF ANALYSIS

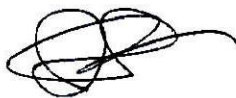
Alloy: 535.2
Heat # 105051902

	Si	Fe	Cu	Mn	Mg	Cr	Ni	Zn
	%	%	%	%	%	%	%	%
1	0.0691	0.0945	0.0020	0.164	6.81	0.0044	0.0056	0.0017
2	0.0456	0.0934	0.0012	0.171	6.82	0.0037	0.0053	< 0.00060
3	0.0443	0.0852	0.0011	0.171	6.91	0.0035	0.0047	0.00089

	Ti	Ca	Na	Pb	Sb	Sn	Sr	Al
	%	%	%	%	%	%	%	%
1	0.138	0.00021	0.00035	0.0024	< 0.00040	0.0021	< 0.00010	92.7
2	0.149	0.00024	0.00053	0.0023	< 0.00040	0.0022	< 0.00010	92.7
3	0.144	0.00015	0.00039	0.0023	< 0.00040	0.0023	< 0.00010	92.6

ELEMENTS LISTED WITHOUT A RANGE, UNDER THE REQUIRED SPECIFICATIONS, ARE MAXIMUM ALLOWABLE PERCENTAGES. SAMPLES ANALYZED ON AN OPTICAL EMISSION SPECTROMETER WITH CURRENT CALIBRATION STATUS. STANDARDS ARE NIST ORE ARE TRACEABLE TO NIST.

SIEMEX CORPORATION



WARNING: THE BUYER IS ADVISED THAT THIS METAL MAY CONTAIN CREVICES AND HIDDEN RECESSES HOLDING ENTRAPPED MOISTURE. THE METAL SHOULD BE HANDLED AND PROCESSED WITH THIS POSSIBILITY IN MIND. ENTRAPPED MOISTURE MAY CAUSE AN EXPLOSION IF THE METAL IS INTRODUCED INTO A MELTING FURNACE WITHOUT PROPER DRYING.